

Bridge Street Bridge
Spanning the Grand River at Bridge Street
Portland
Ionia County
Michigan

HAER No. MI-41

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
MID-ATLANTIC REGION, NATIONAL PARK SERVICE
DEPARTMENT OF THE INTERIOR
PHILADELPHIA, PENNSYLVANIA 19106

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HISTORIC AMERICAN ENGINEERING RECORD

BRIDGE STREET BRIDGE HAER No. MI-41

Location: Spanning the Grand River at Bridge Street in Portland, Ionia County, Michigan

UTM: 16.671220, 4748225
Quad: Portland, South-Michigan

Builder: Groton Bridge and Manufacturing Company of Groton, New York.

Date of Construction: 1890

Present Owner: City of Portland
259 Kent Street
Portland, MI 48875

Present Use: Vehicular/Pedestrian Bridge presently closed to vehicular traffic.

Significance: The Bridge Street Bridge in Portland is a rare two-span metal through truss, with two spans 100 feet in length, featuring decorative treatment at the end posts. This is the oldest known surviving example of a truss bridge built in Michigan by the Groton Bridge and Manufacturing Company of Groton, New York, a significant Eastern bridge manufacturing firm. It was listed as eligible for the National Register of Historic Places in April, 1986.

Project Information: This historic documentation is being done as a mitigation measure prior to the rehabilitation of the Bridge Street Bridge.

Janet Vail
Environmental Scientist
WW Engineering & Science
Grand Rapids, Michigan

The Bridge Street Bridge is located in downtown Portland, Ionia County, Michigan, as shown in the general location map. The bridge and its immediate surroundings are shown on the Bridge Street Bridge site map. The bridge connects East Bridge Street to West Bridge Street.

The Bridge Street Bridge was erected in 1890 and manufactured by the Groton Bridge and Manufacturing Company, Groton, New York. The length of the bridge is 205 feet. The Groton Bridge and Manufacturing Company was a significant Eastern bridge manufacturing firm.

The bridge is a two-span (100 feet in length) metal through truss. *Cyclopedia of Civil Engineering* (1908) defines a through bridge as one where "the floor system connects the bottoms of the trusses" and "traffic moves through the space between the trusses". The truss is a Pratt truss design which accounted for 90 percent of the truss bridges built in the early 1900s (3). The Pratt truss design was invented in America in 1844 by Thos and Caleb Pratt (3).

A typical bridge cross section has interior dimensions of about 16 feet in height and 18 feet in width. The actual clear roadway is 15' 11". The roadway consists of asphalt paving over a timber deck. The bridge is designed for one-way traffic. A six-foot-wide pedestrian walkway with a steel railing is found on the north side of the bridge.

The bridge is set on two poured concrete abutments. The pier in the center of the bridge consists of two steel pilings (columns) with poured concrete between the pilings. Portions of the bridge are not original. The steel stringers, deck, steel channel, and wood sidewalk decking have been replaced through the years. Some modern additions to the bridge include a gas line under the wooden pedestrian walkway and overhead electrical wires.

Some decorative features are found on the Bridge Street Bridge. The railing of pedestrian walkway has a lattice work with round pins at the junction of some of the lacing bars. There were decorative finials that were on the top of each truss end diagonal member. Six of the eight finials are missing. Two lamp posts similar to those on the Portland main street are found attached to the east end of the bridge.

Commemorative plaques at each end of the bridge list the name of the bridge manufacturing company and date erected on one side, and the names of local government officials on the other side. These officials are Supervisor Geo. Dinsmore, Clerk F.E. Doremus, and Commissioner W.F. Selleck. Mr. Selleck was the township highway commissioner.

The Michigan State Historic Preservation Officer and the Secretary of Interior have determined that the Bridge Street Bridge is eligible for inclusion in the National Register of Historic Places, as well as designation as a Michigan historic bridge. Reference to the bridge is made in *The Lower Peninsula of Michigan, An Inventory of Historic Engineering and Industrial Sites* (1):

"This bridge consists of two steel and wrought iron Pratt trusses resting on concrete abutments and a single concrete pier. It is 205 feet long and 24 feet wide."

Historical information on the Bridge Street Bridge is limited. Discussions with employees of the City of Portland, the Portland Public Library, the Michigan State Department of Transportation, the Michigan State Historical Archives, and the Portland Township revealed a lack of information on the Bridge Street Bridge. The original bridge plans are not available, according to the Portland City Manager.

There is some mention of the bridge in the local newspaper. An article from the Portland Independent Review and Observer, dated March 23, 1983, (4) provides the following insight on the bridge site:

PORTLAND'S FIRST BRIDGE

"The rivers were of the greatest importance to the people of the village. Getting across them could be difficult. A shallow place between the banks of the Grand about where the lower bridge stands provided a fairly good ford in time of low water.

At this spot in the driest part of the summer, a sort of footbridge was laid, consisting of planks placed on heavy benches. When the water rose suddenly, there was great activity on both banks to save components of the bridge.

During times of high water a ferry operated. This was a flatboat big enough to carry four or five men and two horses. One man held the horses and the others used poles to push the boat across. A second trip would bring the wagon. The team would then be hitched up again. This ferry arrangement did not make for happy horses and many drivers preferred to take a chance on driving across the ford.

A permanent wooden bridge was built in 1837-38 on the site of the present Upper Bridge. Thirty years later, Winthrop Carpenter built a good, permanent wooden bridge downstream at the ford."

Volumes XX and XXI of the Portland Observer (5) provide historical insight into the construction of the bridge. The wooden bridge was apparently not satisfactory for the growing community of Portland. On October 23, 1889 the Portland Observer reported that a petition before the Board of Supervisors to authorize the Township of Portland to issue bonds with which to build a new bridge across the Grand River had been granted, and that taxpayers would be given an opportunity to vote on that question. A special election was held on November 16 on a proposition of bonding Portland Township in a sum not exceeding \$6,500, one thousand dollars payable each year with 6 percent interest for construction of the iron bridge and stone abutment, and another smaller bridge. (November 6, 1889) The votes were divided--249 for, and 91 against. An editorial comment by the paper was "The Observer is glad to announce such a result...and wishes the bridge could be completed to-morrow." (November 20, 1889)

Apparently, there was some controversy as to which bridge-building company would win the bid to build the new iron bridge. Upward of fifteen bridge-building companies were represented when bids were taken in early December 1889. The choices were narrowed down to the Variety Bridge Company and the Wisconsin Bridge Company, represented by James Barnard and S.S. Ramsey, respectively. Commissioner Stone was in favor of the Wisconsin Bridge Company whereas Clerk F.E. Doremus favored the Variety Bridge Company (December 11, 1889). This issue was resolved by giving the contract to the Groton Bridge and Manufacturing Company of New York for \$3,850, which, with masonry, brought the cost of the two-span bridge to about \$4,850 (December 18, 1889).

Mention of bridge construction on April 30, 1890 indicates that "the abutment for the new iron bridge is being pushed rapidly and this week will find it pretty well done. It is being substantially built, some very large stones being put into the foundation." The Portland Observer

on May 7, 1890 reports rapid progress was being made on the new iron bridge abutment: "Saturday night would have seen it pretty well completed had they not run out of cement Friday." The work was to a point where the old bridge would have to be taken away. An editorial comment by the paper was: "The work is well done and those competent to judge say it is a substantial structure done in an honest manner." By May 28, 1890 the old wooden bridge was "rapidly being dissected" with the platform for working on the new iron bridge put in place.

By June 11, 1890 the Portland Observer notes that the new iron bridge was "fast assuming proportions of completeness, and the latter part of this week will see it pretty well along." The Observer found the bridge to be "a very credible structure and is an improvement to that end of the town, which has suffered long enough for want of a bridge at that point" (June 18, 1890). On June 25, 1890, the Portland Observer mentions that the job of filling at the ends of the bridge was completed far enough for teams to cross over the new iron bridge which "is an ornament to that end of the town and a credit to the company which put it up." By August of 1890, the Observer reports that the new sidewalks were laid and "a good job has been done."

A local historian, Mrs. Elizabeth C. Arnesi, provided postcards from 1913 that show the bridge. She relates that water fights were held on the bridge during homecoming celebrations and that the original color of the bridge was black, not gray, which is the current color.

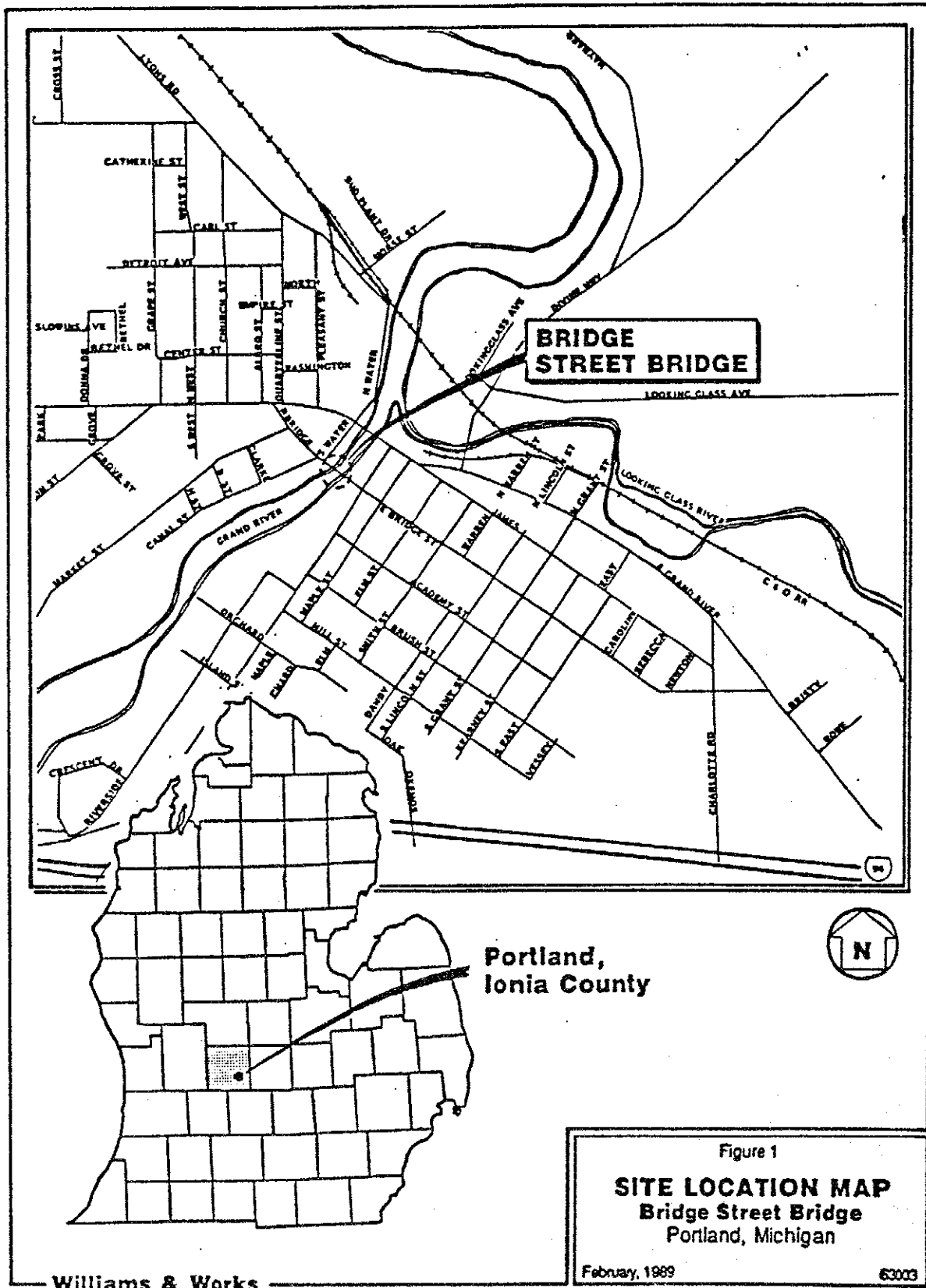
The Bridge Street Bridge has played an important role in the local community. Bridge Street is one of two main east-west streets running through the central business district of Portland. Before being closed to traffic in 1978, the Bridge Street Bridge provided one of only two crossings of the Grand River within the city limits linking the east and west portions of the city--the other being the Grand River Avenue Bridge. The next closest crossing involves a seven-mile detour via Interstate 96.

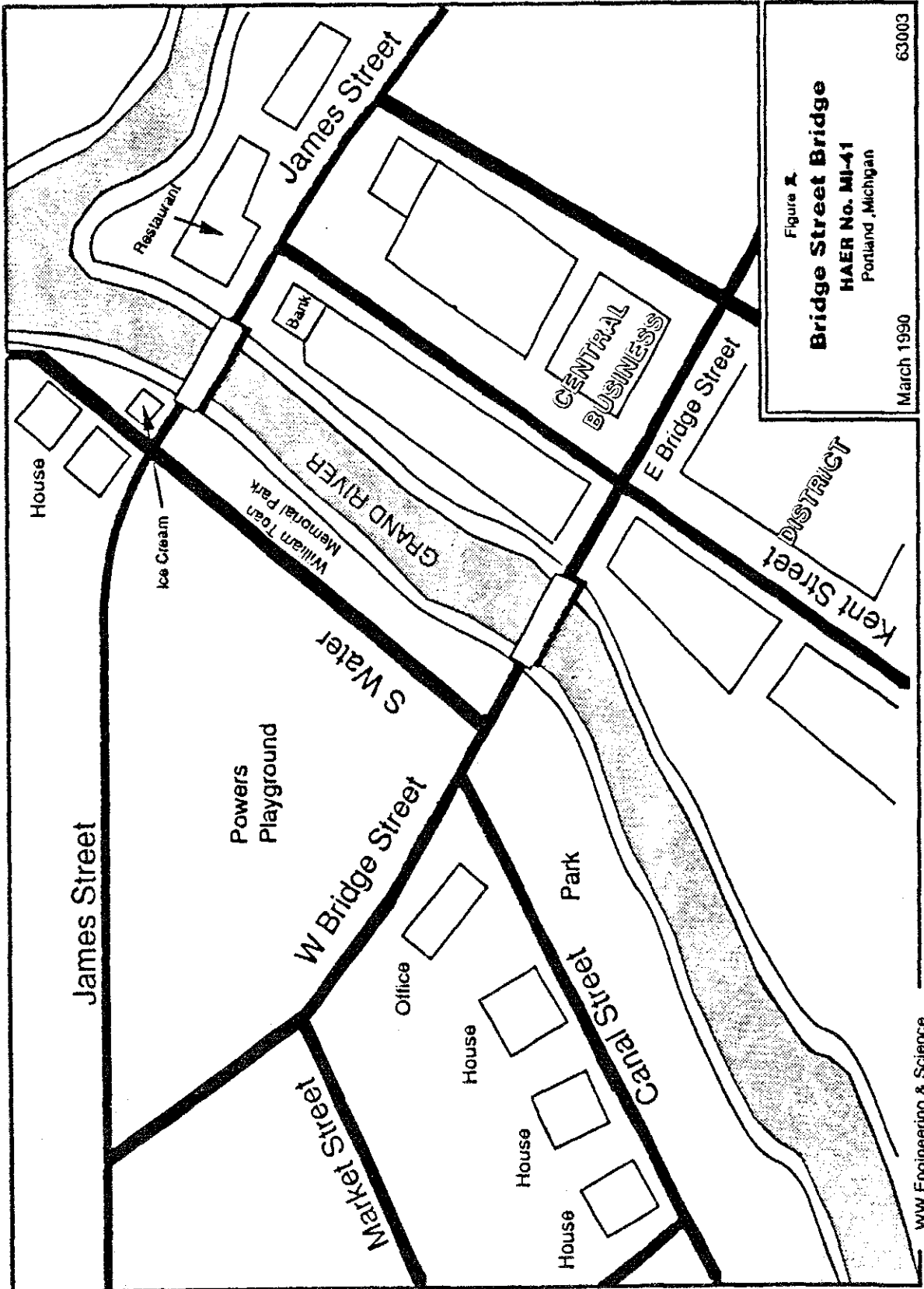
The Bridge Street Bridge was closed to truck traffic in 1952 after damage by ice flows in the Grand River. One-way traffic regulations have been in effect since that time. In 1978 because of continuing deterioration, the City of Portland closed the bridge to all vehicular traffic. There were two accidents on the bridge in the six years prior to its closing. One was a head-on crash and one was a vehicle impacting the bridge (2).

The bridge connects recreational and residential areas on the west side of the Grand River with downtown shopping areas, city offices, public library, and major employers. Rehabilitating and reopening the bridge to vehicle traffic will help relieve traffic congestion in downtown Portland.

BIBLIOGRAPHY

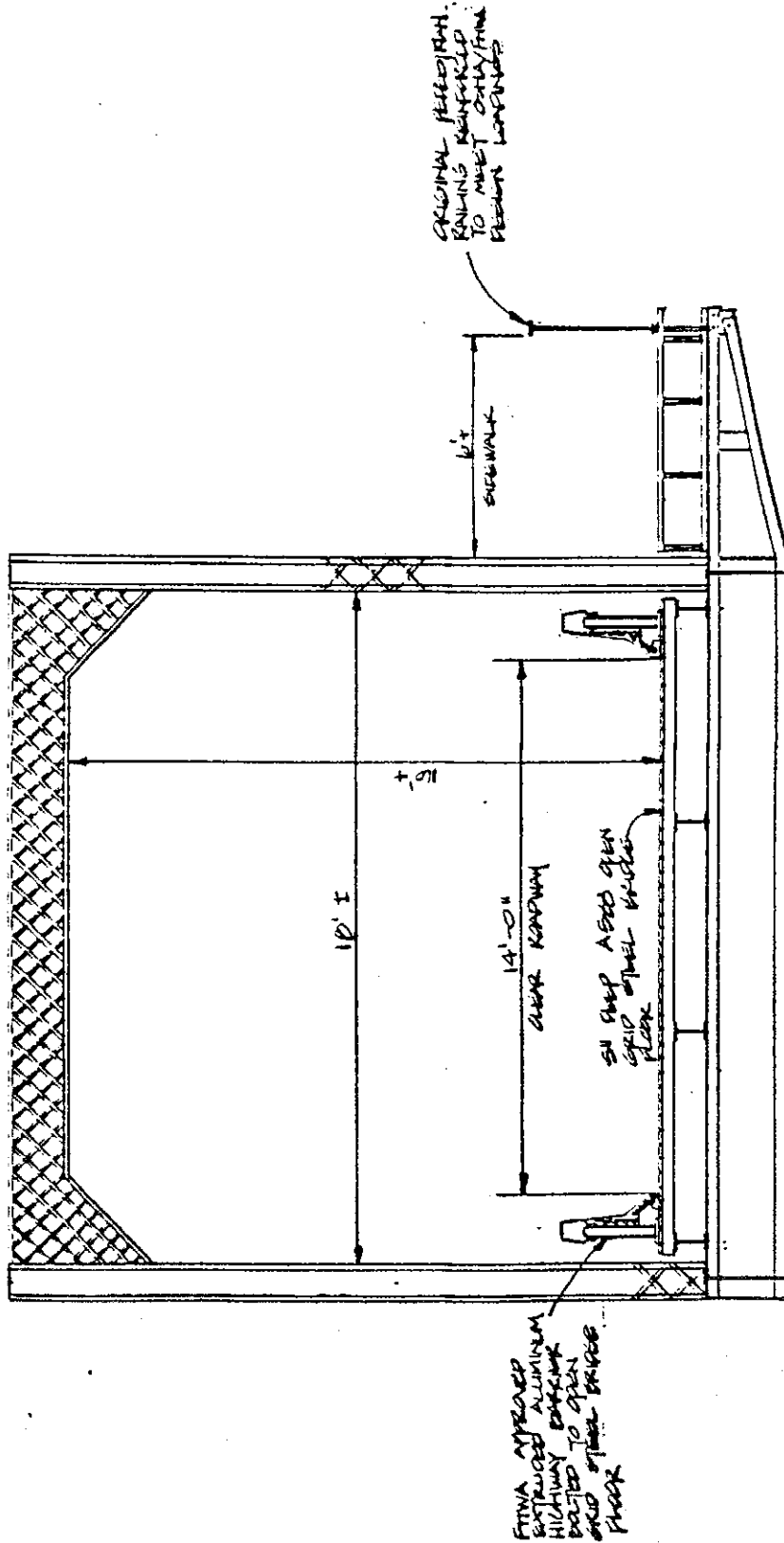
1. Abbott, Diane B. ed. 1976. The Lower Peninsula of Michigan: An Inventory of Historic Engineering and Industrial Sites. Historic American Engineering Record. Office of Archeology and Historic Preservation, National Park Service, U.S. Department of Interior, p. 223.
2. City of Portland Narrative, Proposed Restoration of Bridge Street over the Grand River, January, 1988.
3. *Cyclopedia of Civil Engineering*, Volume VI, Frederick E. Turneaure, Chicago: American Technical Society 1908.
4. "From the Mouth of the Looking Glass." N.E. Caise, Portland Independent Review & Observer, March 23, 1983.
5. Portland Observer, Volumes XX and XXI. (Original copies in possession of Portland Public Library).
 - Volume XX No. 51 October 23, 1889
 - Volume XXI No. 1 November 6, 1889
 - Volume XXI No. 3 November 20, 1889
 - Volume XXI No. 6 December 11, 1889
 - Volume XXI No. 7 December 18, 1889
 - Volume XXI No. 26 April 30, 1890
 - Volume XXI No. 27 May 7, 1890
 - Volume XXI No. 30 May 28, 1890
 - Volume XXI No. 32 June 11, 1890
 - Volume XXI No. 33 June 18, 1890
 - Volume XXI No. 34 June 25, 1890
 - Volume XXI No. 40 August 6, 1890





BRIDGE STREET BRIDGE RESTORATION/REHABILITATION PORTLAND, MICHIGAN

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TYPICAL BRIDGE CROSS SECTION
REMARK: ONE WAY TRAFFIC HIS LOADING

